

51. A method of increasing bioavailability of nutrients in a mammal comprising buccally administering to said mammal a composition comprising a lactic acid-producing bacteria, a fructo-oligosaccharide, and a mineral gluconate.

52. The method of claim 51, wherein said bacteria is *Bacillus coagulans*.

53. The method of claim 51, wherein said bacteria is *Bacillus coagulans* Hammer.

54. The method of claim 51, wherein said bacteria is in the form of a spore.

55. A method of increasing bioavailability of nutrients in a mammal comprising buccally administering to said mammal a composition comprising a lactic acid-producing bacteria, a fructo-oligosaccharide, and a mineral citrate.

56. A method of increasing bioavailability of nutrients in a mammal comprising buccally administering to said mammal a composition comprising a lactic acid-producing bacteria, a fructo-oligosaccharide, and a lactase.

57. A method of increasing bioavailability of nutrients in a mammal comprising administering to said mammal a suppository, said suppository comprising a lactic acid-producing bacteria.

58. A composition comprising a *Bacillus coagulans*, a fructo-oligosaccharide, and a mineral gluconate.

59. A composition comprising a *Bacillus coagulans*, a fructo-oligosaccharide, and a mineral citrate.

60. A composition comprising a *Bacillus coagulans*, a fructo-oligosaccharide, and a lactase.